AND
AUTHOR INDEX
VOLUME 23, 1999



PERGAMON

Computers, Environment and Urban Systems

An International Journal

FDITOR

Paul Longley: School of Geographical Sciences, University of Bristol, University Road, Bristol BS8 1SS, U.K. [Fax: (0117) 928 7878; E-mail: Paul.Longley@bristol.ac.uk].

NORTH AMERICAN ASSOCIATE EDITOR Richard E. Klosterman: University of Akron, U.S.A.

EDITORIAL BOARD

Mike Batty

University College London, U.K.

Peter Burrough

University of Utrecht, The Netherlands

Arnaldo Cecchini

University Institute of Architecture, Venice Italy

Graham Clarke

University of Leeds, U.K.

Max Craglia

University of Sheffield, U.K.

Mark Gahegan

The Pennsylvania State University.

U.S.A.

Michael F. Goodchild University of California, Santa Barbara, U.S.A. Kingsley E. Haynes

George Mason University.

U.S.A.

Gary Higgs

University of Wales, Cardiff, U.K.

Robert Laurini

Claude Bernard University of Lyon, France

Andrew A. Lovett

University of East Anglia, U.K.

David J. Martin

University of Southampton. U.K.

lan Masser

ITC, Enschede, The Netherlands

Victor Mesey

University of Ulster, Northern Ireland Atsuvuki Okabe

University of Tokyo, Japan

Peter van Oosterom

Cadastre, Netherlands

Michael J. Shiffer

Massachusetts Institute of Technology, U.S.A.

P. K. Sikdar

Central Road Research Institute, New Delhi, India

Robert Weibel

University of Zurich, Switzerland

Michael F. Worboys Keele University, U.K.

Anthony Yeh University of Hong Kong

Advertising information. Advertising orders and enquiries can be sent to: USA, Canada and South America: Mr Tino de Carlo, The Advertising Department, Elsevier Science Inc., 655 Avenue of the Americas, New York, NY 10010-5107, USA; phone: (+1) (212) 633 3815; fax: (+1) (212) 633 3820; e-mail: t.decarlo@elsevier.com. Japan: The Advertising Department, Elsevier Science K.K., 9-15 Higashi-Azabu 1-chome, Minato-ku, Tokyo 106-0044, Japan: phone: (+81) (3) 5561 5047. Europe and ROW: Rachel Leveson-Gower, The Advertising Department, Elsevier Science Ltd., The Boulevard, Langford Lane, Kidlington, Oxford OX5 1GB, UK; phone: (+44) (1865) 843565; fax: (+44) (1865) 843976; e-mail: r.leveson-gower @elsevier.co.uk

Author Service Department: For queries relating to the general submission of articles (including electronic text and artwork) and the status of accepted manuscripts, please contact the Author Service Department: e-mail: authors@elsevier.co.uk; Fax +44 (0) 1865 843905; Tel: +44 (0) 1865 843900.

Frequency: Published bimonthly in January, March, May, July, September and November.

Copyright © 2000 Elsevier Science Ltd. All rights reserved

Publication Information: Computers, Environment and Urban Systems (ISSN 0198-9715). For 2000, volume 24 is scheduled for publication, Subscription prices are available upon request from the Publisher or from the Regional Sales Office nearest you or from the journal's website (http://www.elsevier.com/locate/compenvurbsys). Further information is available on this journal and other Elsevier Science products through Elsevier's website: (http://www.elsevier.nl). Subscriptions are accepted on a prepaid basis only and are entered on a calendar year basis. Issues are sent by standard mail (surface within Europe, air delivery outside Europe). Priority rates are available upon request. Claims for missing issues should be made within six months of the date of dispatch.

The Americas: Elsevier Science Customer Support Department, P.O. Box 945, New York, NY 10010, U.S.A. [Tel.: (+1) 212-633-3730/1-888 4ES-INFO; Fax: (+1) 212-633-3680. E-mail: usinfo-fae elsevier.co.com], Japan: Elsevier Science Customer Support Department, 9-15 Higashi-Azabu 1-chome, Minato-ku, Tokyo 106, Japan [Tel.: (+81) 3-5561-5033; Fax: (+81) 3-5561-5047; E-mail: info@elsevier.co.jp], Asia Pacific (excluding Japan): Elsevier Science (Singapore) Pte Ltd, No. 1 Temasek Avenue, 17-01 Millenia Tower, Singapore 039192 [Tel.: (+65) 434-3727; Fax: (+65) 337-2230; E-mail: asiainfo@elsevier.co.com.sg]. Rest of the World: Elsevier Science Customer Service Department, P.O. Box 211, 1001 AE Amsterdam. The Netherlands [Tel.: (+31) 20-485-3432; E-mail: ininfo-faelsevier.nl)

COMPUTERS, ENVIRONMENT AND URBAN SYSTEMS VOLUME 23, LIST OF CONTENTS

Volume 23, Number 1

January 1999

Theme Issue

DATA INTEGRATION CONTENTS

V. Mesev 1 Editorial: integration issues in GIS and remote sensing M. Sester 5 Acquiring transition rules between multiple representations in a GIS: an experiment with area aggregation X. Dai 19 Data fusion using artificial neural networks: S. Khorram a case study on multitemporal change analysis D.Z. Sui 33 Integrating GIS with hydrological modeling: R.C. Maggio practices, problems, and prospects B. Haack 53 Multisensor remote sensing data for M. Bechdol land use/cover mapping

Volume 23, Number 2

S. Guy

March 1999

CONTENTS

G. Higgs 71 Editorial: devolution and rational planning - some threats and opportunities for the break-up of GIS J.R. Ritsema van Eck 75 Accessibility analysis and spatial competition effects in the context of GIS-supported T. de Jong service location planning Cheng-Min Feng 91 Using a genetic algorithm to generate Jen-Jia Lin alternative sketch maps for urban planning S. Marvin 109 Pathways of smart metering development: H. Chappells shaping environmental innovation

List of Contents

B. Jiang
C. Claramunt
M. Batty

127

Geometric accessibility and geographic information: extending desktop GIS to space syntax

Volume 23, Number 3

May 1999

Volume 23, Number 3 CONTENTS

P. Rizzi 147 Editorial: Computers in urban planning and urban management at the turn of the millennium A. Cecchini 151 New information and communication technologies and the professions of town and regional planners P. Hall 173 The future of cities E. Salzano 187 Commentary: the future of town planning J.L. Casti 193 Would-be worlds: the science and surprise of artificial worlds M. Batty 205 Modeling urban dynamics through GIS-Yichun Xie based cellular automata Zhanli Sun F. Indovina 235 New technologies and the future of cities

Volume 23, Number 4

July 1999

Theme Issue

TELEGEOPROCESSING

CONTENTS

R. Laurini 243 Editorial: TeleGeoProcessing P. Valsecchi 245 OSIRIS: an inter-operable system for the C. Claramunt integration of real-time traffic data within E. Peytchev GIS A. Boulmakoul 259 First specifications of a telegeomonitoring R. Laurini system for the transportation of hazardous S. Servigne materials M.A.J. Idrissi

P.R. Muro-Medrano D. Infante J. Guillo J. Zarazaga J.A. Bañares	271	A CORBA infrastructure to provide distributed GPS data in real time to GIS applications
P.P. Gonçalves M. Costa	287	Local and remote geoprocessing applications
M. Zingler P. Fischer J. Lichtenegger	305	Wireless field data collection and EO-GIS-GPS integration
D.J. Coleman S. Li	315	Developing a groupware-based prototype to support geomatics production management
Volume 23, Number 5		September 1999
	CC	ONTENTS
Paul Longley	333	Editorial: Understanding income distributions in urban systems
C. Pettit D. Pullar	339	An integrated planning tool based upon multiple criteria evaluation of spatial information
R.M. Krzanowski J. Raper	359	Hybrid genetic algorithm for transmitter location in wireless networks
K. Lupton D. Bolsdon	383	An object-based approach to a road network definition for an accident database
L. Özdamar M. Demirhan A. Özpnar	399	A comparison of spatial interpolation methods and a fuzzy areal evaluation scheme in environmental site characterization
Volume 23, Number 6		November 1999

Theme Issue

URBAN DATA MANAGEMENT CONTENTS

Robert Laurini Editorial: Theme issue: Urban Data 423 Management

List of Contents

G. Andrienko N. Andrienko H. Voss J. Carter	425	Internet mapping for dissemination of statistical information
K. Fedra	443	Urban environmental management: monitoring, GIS, and modeling
W. Cudlip C. Lysons R. Ley G. Deane H. Stroink F. Roli	459	A new information system in support of landscape assessment: PLAINS
T. Cambruzzi A. Fiduccia L. Novelli	469	A dynamic geomonitoring system for Venetian coastal ecosystem: WATERS project
I. Gauna A. Sozza	485	The geographic information system of the Turin City Council on the Internet

